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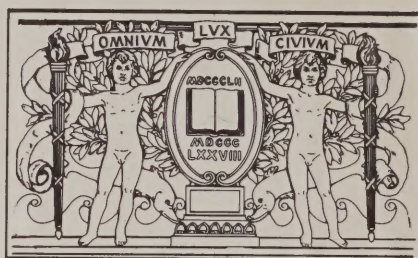
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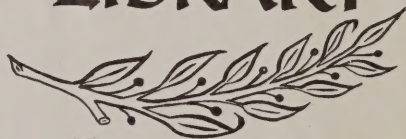
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BOSTON'S PROJECTED EMPLOYMENT IN THE 1980s:
SERVICES, INFORMATION, AND HIGH-TECHNOLOGY INDUSTRIES LEAD
A RESURGENCE OF JOB OPPORTUNITIES

Gregory W. Perkins
Boston Redevelopment Authority
Research Department

January 28, 1983

Kevin H. White, Mayor
City of Boston

Robert J. Ryan, Director
Boston Redevelopment Authority

Alexander Ganz
Research Director

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Boston's employment growth in the 1980s will be led by a broad range of services, information and high-technology industries. The City's net gain of more than eighty thousand jobs from 1980 to 1990 would exceed the growth rate in Massachusetts and nearly keep pace with national employment growth (see Tables 1 and 8).

These projections are based on published national and state projections and historical trends in the Boston economy. Employment growth in the 1980s will reflect a continued national shift from goods-producing to services-producing activities. Services and trade will account for more than one-half of job growth nationally (see Table 2). In Massachusetts, trade and services will supply two-thirds of the net new jobs and manufacturing of durable goods (mainly high-technology industries) will contribute another twenty percent of the growth (see Table 3).

Boston will rely on finance, transportation and communication, trade and a range of services related to information, high-technology manufacturing, health, education, business and social organizations (see Tables 4 and 5). In fact, ten of the top fifteen growth industries for the 1980s are in services and finance (see Table 6). Conversely, the declining industries are led by government, proprietors, and several of the older, nondurable goods manufacturing industries (see Table 7).

The projection method is explained in footnotes to Tables 1-5.

Table 1

1980-1990 EMPLOYMENT PROJECTIONS

	1980	1990	Net Change 1980-90	Percent Change 1980-90
United States	106,199,000	130,665,000	+24,466,000	+23.0%
Massachusetts (MDES)	2,649,350	2,966,450	+ 317,100	+12.0%
(BRA)		(3,136,830)	+ 487,480	+18.4%
Boston	548,497	631,517	+ 83,020	+15.1%

Note: Table includes BRA estimate of Massachusetts employment projection set at about 50 percent greater than MDES projection or 80 percent of U.S. rate. Boston rates are 80 percent of State rates and 65 percent of U.S. rate.

Source: Compiled by BRA Research Department.
See Tables 2, 3, and 4.

Table 2

UNITED STATES EMPLOYMENT BY MAJOR INDUSTRIAL SECTOR
1980 AND PROJECTED 1990
(In Millions)

Industry	Employment		Net Change 1980-90	Percent Change 1980-90
	1980	1990		
Total Employment	106,199	130,665	+24,466	+23.0%
Agriculture, Forestry, Fisheries	3,333	3,306	- 27	- 0.8
Mining	722	1,059	+ 337	+46.7
Construction	6,029	7,509	+ 1,480	+24.5
Manufacturing	21,759	25,520	+ 3,761	+17.3
Durables	13,249	16,045	+ 2,796	+21.1
Non-Durables	8,510	9,475	+ 965	+11.3
Transportation, Communica- tions, Public Utilities	5,637	6,815	+ 1,178	+20.9
Trade	22,921	29,231	+ 6,310	+27.5
Wholesale	5,622	6,964	+ 1,342	+23.9
Retail	17,299	22,267	+ 4,968	+28.7
Finance, Insurance, Real Estate	5,677	7,464	+ 1,787	+31.5
Services & Proprietors	21,989	29,744	+ 7,755	+35.2
Business & Personal	8,907	12,000	+ 3,093	+34.7
Professional	13,082	17,735	+ 4,653	+35.6
Government	18,132	20,017	+ 1,885	+10.4

Source: U.S. Department of Labor, Bureau of Labor Statistics, "The Outlook for Industry Output and Employment through 1990", Monthly Labor Review, August 1981, pp. 28-41.

Table 3

MASSACHUSETTS WAGE AND SALARY EMPLOYMENT IN MAJOR INDUSTRY GROUP,
1980 AND PROJECTED 1990*

Industry	Employment		Net Change 1980-90	Percent Change 1980-90
	1980	1990		
Total, Wage and Salary	2,649,350	2,966,450	317,100	12.0
Agriculture, Forestry & Fishing	14,450	14,750	300	2.1
Mining	1,000	1,000	0	0
Construction	77,500	94,850	17,350	22.4
Manufacturing	677,250	742,800	65,500	9.7
Durable Goods	439,900	510,700	70,800	16.1
Non-Durable Goods	237,350	232,100	-5,250	- 2.2
Transportation, Communica. & Public Utilities	142,400	139,550	-2,850	- 2.0
Wholesale and Retail Trade	573,400	652,050	78,650	13.7
Wholesale Trade	131,250	147,550	16,300	12.4
Retail Trade	442,150	504,500	62,350	14.1
Finance, Insurance, Real Est.	158,600	185,000	26,400	16.6
Services & Proprietors	803,400	943,650	140,250	17.5
Business & Personal	198,800	222,050	23,250	11.7
Professional	604,600	721,600	117,000	19.4
Government**	201,300	192,800	-8,500	- 4.2

* Employment numbers rounded. Percentages calculated on rounded totals.

** Public education and public hospitals allocated to services. U.S. Postal Services allocated to transportation.

Source: Massachusetts Division of Employment Security, "Massachusetts Employment: Projected Changes 1980-1990," October, 1982.

Table 4

CITY OF BOSTON EMPLOYMENT PROJECTIONS BY MAJOR INDUSTRIAL GROUP
1980 AND PROJECTED 1990

Industry	<u>Employment</u>		Net Change 1980-90	Percent Change 1980-90
	1980	1990		
Total	548,497	631,517	+83,020	+15.1%
Agriculture, Forestry, Fishing	518	528	+ 10	+ 2.1
Mining	45	45	0	0
Construction	10,163	12,446	+ 2,238	+22.5
Manufacturing	51,861	56,529	+ 4,668	+ 9.0
Durables	20,615	25,130	+ 4,515	+21.9
Non-Durables	31,246	31,399	+ 325	.5
Transportation, Communications, Public Utilities	36,660	40,569	+ 3,909	+10.6
Trade	83,027	95,121	+12,094	+14.6
Wholesale	27,308	30,611	+ 3,303	+12.1
Retail	55,719	64,510	+ 8,791	+15.8
Finance, Insurance, Real Est.	70,451	85,028	+14,577	+20.7
Services	187,991	239,267	+51,276	+27.3
Business and Personal	54,994	73,713	+18,719	+34.0
Professional	132,997	165,554	+32,557	+24.5
Proprietors	11,764	10,000	- 1,764	-15.0
Government	96,017	91,984	- 4,033	- 4.2%

Source: See Table 5.

Table 5

I. CITY OF BOSTON EMPLOYMENT PROJECTIONS,
BY DETAILED (2-DIGIT SIC) INDUSTRIES, 1980-1990
(Number of Workers)

SIC Code	Industry	Boston 1980 <u>Actual</u>	Boston 1990 <u>Projected</u>	<u>Job Change 1980-1990</u>	
				<u>Number</u>	<u>Percent</u>
Total		548,497	631,517	+83,020	+15.1
Agri., Forest, Fisheries		518	528	+ 10	+ 2.1
01	Agriculture-Crops	81	83	+ 2	+ 1.9
02	Agriculture-Livestock	0	0	0	0
07	Agricultural Services	394	401	+ 7	+ 2.7
08	Forestry	0	0	0	0
09	Fisheries	43	44	+ 1	+ 2.7
Mining		45	45	0	0
Construction		10,163	12,446	+2,283	+22.5
15	General Building	2,748	3,331	+ 583	+21.2
16	General Contracting	1,165	1,421	+ 256	+22.0
17	Special Contracting	6,250	7,694	+1,444	+23.1
Manufacturing		51,861	56,529	+4,668	+ 9.0
Durable Goods		20,615	25,130	+4,515	+21.9
24	Lumber & Wood	243	266	+ 23	+ 9.6
25	Furniture & Fixtures	885	838	- 47	- 5.5
32	Stone, Clay, & Glass	342	341	- 1	- 0.4
33	Primary Metals	766	806	+ 40	+ 5.2
34	Fabricated Metals	6,970	8,489	+1,519	+21.8
35	Non-Electric Machinery	4,221	5,808	+1,587	+19.6
36	Electrical Equipment	2,296	2,859	+ 563	+21.2
37	Transportation Equipment	960	1,036	+ 76	+ 7.9
38	Instruments	2,364	3,146	+ 782	+33.1
39	Miscellaneous Mfg.	1,568	1,541	- 27	- 1.7
Non-Durable Goods		31,246	31,399	+ 325	+ .5
20	Food Products	5,635	5,489	- 146	- 2.6
21	Tobacco Products	0	0	0	0
22	Textile Products	629	579	- 50	- 8.0
23	Apparel & Accessories	7,636	7,407	- 229	- 3.0
26	Paper & Pulp	1,121	1,083	- 38	- 3.4
17	Printing & Publishing	11,384	11,623	+ 239	+ 2.1
28	Chemical & Related Goods	2,202	2,550	+ 348	+15.8
29	Petroleum & Coal	248	255	+ 7	+ 2.7
30	Rubber & Plastics	1,143	1,403	+ 260	+22.7
31	Leather Products	1,248	1,010	- 238	-19.1

SIC Code	Industry	Boston 1980 Actual	Boston 1990 Projected	Job Change 1980-1990	
				Number	Percent
	Transportation/Communications/ Utilities	36,660	40,569	+3,909	+10.6
40	Railroad Transportation	0	0	0	0
41	Local Passenger Transp.	1,924	1,787	- 137	- 7.1
42	Trucking & Warehousing	3,902	3,836	- 66	- 1.7
44	Water Transportation	1,220	1,220	0	0
45	Air Transportation	8,963	8,246	- 717	- 8.0
46	Pipeline Transportation	0	0	0	0
47	Transportation, Services	1,917	2,561	+ 644	+33.6
48	Communication	13,961	17,926	+3,965	+28.4
49	Electric, Gas, & Sanitary	4,773	4,993	+ 220	+ 4.6
	Trade	83,027	95,121	+12,094	+14.6
	Wholesale Trade	27,308	30,611	+ 3,303	+12.1
50	Durable Goods	13,636	15,927	+ 2,291	+16.8
51	Non-Durable Goods	13,672	14,684	+ 1,012	+ 7.4
	Retail Trade	55,719	64,510	+ 8,791	+15.8
52	Building Materials	826	871	+ 45	+ 5.5
53	General Merchandise	8,089	8,501	+ 412	+ 5.1
54	Food Stores	7,543	7,988	+ 445	+ 5.9
55	Automotive & Service	2,727	2,752	+ 25	+ .9
56	Apparel & Accessory	5,116	5,546	+ 430	+ 8.4
57	Furniture & Fixtures	1,784	1,910	+ 126	+ 7.1
58	Eating & Drinking	21,203	27,373	+ 6,170	+29.1
59	Miscellaneous Retail	8,431	9,569	+ 1,138	+13.5
	Finance, Insurance, Real Estate	70,451	85,028	+14,577	+20.7
60	Banking	17,443	20,391	+ 2,948	+16.9
61	Credit Institutions	2,186	3,157	+ 971	+44.4
62	Security Brokers	7,782	11,237	+ 3,455	+44.4
63	Insurance Carriers	28,576	31,576	+ 3,000	+10.5
64	Insurance Services	4,977	5,818	+ 841	+16.9
65	Real Estate	8,105	11,039	+ 2,934	+36.2
66	Other Ins. & Real Estate	209	268	+ 59	+28.2
67	Holding & Investment Cos.	1,173	1,542	+ 369	+31.5
	Services	187,991	239,267	+51,276	+27.3
	Business & Personal	54,994	73,713	+18,719	+34.0
70	Hotel & Lodging	5,974	8,053	+ 2,079	+34.8
72	Personal Services	4,127	4,185	+ 58	+ 1.4
73	Business & Advertising	35,205	50,977	+15,772	+44.8
75	Auto Repair & Services	4,371	4,891	+ 520	+11.9
76	Miscellaneous Repair	1,047	1,188	+ 141	+13.5
78	Motion Pictures	1,451	1,541	+ 90	+ 6.2
79	Amusement & Recreation	2,819	2,878	+ 59	+ 2.1

SIC Code	Industry	Boston 1980	Boston 1990	Job Change 1980-1990	
		Actual	Projected	Number	Percent
Services (continued)					
	Professional	132,997	165,554	+32,557	+24.5
80	Health & Hospitals	59,776	76,812	+17,036	+28.5
81	Legal Services	8,362	11,473	+ 3,111	+37.2
82	Educational Services	24,112	23,750	- 362	- 1.5
83	Social Services	12,648	17,366	+ 4,718	+37.3
84	Museums & Gardens	1,407	1,749	+ 342	+24.3
86	Membership Organizations	5,617	5,645	+ 28	+ 0.5
88	Private Household Workers	437	444	+ 7	+ 1.5
89	Miscellaneous Professional	20,638	28,315	+ 7,677	+37.2
	Engin./Arch./Research/ Auditing				
Proprietors (Self-Employed)		11,764	10,000	- 1,764	-15.0
Government (Fed., State, Local)		96,017	91,984	- 4,033	- 4.2

Source and Methodology:

Compiled by BRA Research Department using projections of U.S. industry employment growth 1980-1990 from Valerie Personick, "The Outlook for Industry Output and Employment through 1990", Monthly Labor Review, August 1981 pp. 28-41, and Massachusetts projections of industry employment prepared by the Massachusetts Division of Employment Security, "Massachusetts Employment: Projected Changes 1980 to 1990", October 1982. Boston projections were made at the detailed (2-digit SIC) industry level, taking the lower of the growth rates from the national and state projections (usually Massachusetts rates) except for a selection of about 20 (2-digit SIC) industries which give reasonable evidence of being fast-growth industries for Boston over the 1980-1990 time period. Thus, the Boston projection series is a "high growth scenario", and compares with an alternative moderate growth scenario of 60,000 net new jobs, for the period.

Table 6

BOSTON'S TOP FIFTEEN GROWTH INDUSTRIES FOR THE 1980s

Jobs			Percent		
1.	Health & Hospitals	17,036	1.	Business & Advertising	44.8%
2.	Business & Advertising	15,772	2.	Credit Institutions	44.4
3.	Misc. Prof. Services	7,677	3.	Security Brokers	44.4
4.	Eating & Drinking Estab.	6,170	4.	Misc. Prof. Services	37.2
5.	Social Services	4,718	5.	Legal Services	37.2
6.	Communications	3,965	6.	Social Services	37.2
7.	Security Brokers	3,455	7.	Real Estate	36.2
8.	Legal Services	3,111	8.	Hotel & Lodging	34.8
9.	Insurance Carriers	3,000	9.	Transportation Serv.	33.6
10.	Banking	2,948	10.	Instruments	33.1
11.	Real Estate	2,934	11.	Holding & Investment	31.5
12.	Wholesale Trade-Durables	2,291	12.	Eating & Drinking Est.	29.1
13.	Hotel & Lodging	2,079	13.	Health & Hospitals	28.5
14.	Non-Electric Machinery	1,587	14.	Communications	28.4
15.	Fabricated Metals	1,519	15.	Other Insurance/Real Estate	28.2%

Source: Compiled by BRA Research Department. See Table 5.

Table 7

BOSTON'S TOP FIFTEEN DECLINING INDUSTRIES IN THE 1980s

Jobs		Percent	
15. Government	-4,033	15. Leather Products	-19.1%
14. Proprietors	-1,764	14. Proprietors	-15.0
13. Air Transportation	- 717	13. Textile Products	- 8.0
12. Educational Services	- 362	12. Air Transportation	- 8.0
11. Leather Products	- 238	11. Local Passenger Trans.	- 7.1
10. Apparel Products	- 229	10. Furniture & Fixtures	- 5.5
9. Food Products	- 146	9. Government	- 4.2
8. Local Passenger Trans.	- 137	8. Paper & Pulp	- 3.4
7. Trucking/Warehousing	- 66	7. Apparel Products	- 3.0
6. Textile Products	- 50	6. Food Products	- 2.6
5. Furniture & Fixtures	- 47	5. Misc. Manufacturing	- 1.7
4. Paper & Pulp	- 38	4. Trucking/Warehousing	- 1.7
3. Misc. Manufacturing	- 27	3. Educational Services	- 1.5
2. Stone, Clay, Glass	- 1	2. Stone, Clay, Glass	- 0.4
1. Mining	0	1. Mining	0.0%

Source: Compiled by BRA Research Department. See Table 5.

Table 8

II. EMPLOYMENT RATES OF CHANGE FOR DETAILED INDUSTRIES, 1980-1990
COMPARISON OF UNITED STATES, MASSACHUSETTS, AND BOSTON
(Change in Percent)

SIC Code	Industry	United States	Massachusetts	Boston
Total		+23.0%	+12.0%	+15.1%
Agriculture, Forestry, Fisheries		- 0.8	+ 2.1	+ 2.1
01	Agriculture-Crops	- 2.4	+ 2.1	+ 2.1
02	Agriculture-Livestock	-12.1	+ 1.9	0.0
07	Agricultural Services	+25.9	+ 2.7	+ 2.7
08	Forestry	+25.9	+ 2.7	0.0
09	Fisheries	+25.9	+ 2.7	+ 2.7
Mining		+46.7	0.0	0.0
10	Metals	+13.6	0.0	0.0
11	Hard Coal	+72.7	0.0	0.0
12	Soft Coal	+72.7	0.0	0.0
13	Oil & Gas	+50.4	0.0	0.0
14	Other Minerals	+ 9.2	0.0	0.0
Construction		+24.5	+22.4	+22.5
15	General Building	+24.5	+21.2	+21.2
16	General Contracting	+24.5	+22.0	+22.0
17	Special Contracting	+24.5	+23.1	+23.1
Manufacturing		+17.3	+ 9.7	+ 9.0
Durable Goods		+21.1	+16.1	+21.9
24	Lumber & Wood	- 6.1	+ 9.6	+ 9.6
25	Furniture & Fixtures	+20.5	- 5.5	- 5.5
32	Stone, Clay, & Glass	+10.5	- 0.4	- 0.4
33	Primary Metals	+ 8.8	+ 5.2	+ 5.2
34	Fabricated Metals	+21.8	+ 5.1	+21.8
35	Non-Electrical Machinery	+37.6	+37.6	+19.6
36	Electrical Equipment	+24.5	+24.5	+21.2
37	Transportation Equipment	+13.1	+ 7.9	+ 7.9
28	Instruments	+31.5	+33.1	+33.1
39	Miscellaneous Manufacturing	+10.1	- 1.7	- 1.7
Non-Durable Goods		+11.3	- 2.2	+ .5
20	Food Products	0.0	- 2.6	- 2.6
21	Tobacco Products	- 4.3	0.0	0.0
22	Textile Products	+ 4.5	- 8.0	- 8.0
23	Apparel & Accessories	+15.6	- 3.0	- 3.0
26	Paper & Pulp	+ 9.2	- 3.4	- 3.4
27	Printing & Publishing	+20.0	+ 2.1	+ 2.1
28	Chemicals & Related Goods	+15.8	+ 5.0	+15.8
29	Petroleum & Coal	- 3.8	+ 2.7	+ 2.7
30	Rubber & Plastics	+22.7	+ 6.0	+22.7
31	Leather Products	- 4.7	-19.1	-19.1

SIC Code	Industry	United States	Massachusetts	Boston
	Transportation, Communications, Public Utilities	+20.9	- 2.0	+10.6
40	Railroad Transportation	0.0	-10.9	0.0
41	Local Passenger Transportation	- 7.1	+18.4	- 7.1
42	Trucking & Warehousing	- 1.7	+29.2	- 1.7
44	Water Transportation	0.0	- 7.7	0.0
45	Air Transportation	- 8.0	+17.2	-8.0
46	Pipeline Transportation	0.0	+ 8.8	0.0
47	Transportation Services	+12.7	+33.6	+33.6
48	Communication	- 2.9	+28.4	+28.4
49	Electric, Gas, & Sanitary	+ 4.6	+23.1	+ 4.6
	Trade	+27.5	+13.7	+14.6
	Wholesale Trade	+23.9	+12.4	+12.1
50	Durable Goods	+23.9	+16.8	+16.8
51	Non-Durable Goods	+23.9	+ 7.4	+ 7.4
	Retail Trade	+28.7	+14.1	+15.8
52	Building Materials	+24.1	+ 5.5	+ 5.5
53	General Merchandise	+24.1	+ 5.1	+ 5.1
54	Food Stores	+24.1	+ 5.1	+ 5.9
55	Automotive & Service	+24.1	+ 0.9	+ .9
56	Apparel & Accessory	+24.1	+ 8.4	+ 8.4
57	Furniture & Fixtures	+24.1	+ 8.4	+ 7.1
58	Eating & Drinking	+42.3	+29.1	+29.1
59	Miscellaneous Retail	+24.1	+13.5	+13.5
	Finance/Insurance/Real Estate	+31.5	+16.6	+20.7
60	Banking	+32.1	+16.9	+16.9
61	Credit Institutions	+44.4	+12.6	+44.4
62	Security Brokers	+44.4	+25.6	+44.4
63	Insurance Carriers	+23.0	+10.5	+10.5
64	Insurance Services	+23.0	+16.9	+16.9
65	Real Estate	+36.2	+27.9	+36.2
66	Other Insurance & Real Estate	+28.2	+ 9.1	+28.2
67	Holding & Investment Companies	+44.4	+31.5	+31.5
	Services	+39.7	+17.5	+27.3
	Business and Personal	+34.7	+11.7	+34.0
70	Hotel & Lodging	+34.8	+19.8	+34.8
71	Personal Services	+20.7	+ 1.4	+ 1.4
73	Business & Advertising	+44.8	+37.2	+44.8
75	Auto Repair & Services	+39.9	+11.9	+11.9
76	Miscellaneous Repair	+20.7	+13.5	+13.5
78	Motion Pictures	+ 6.2	0.0	+6.2
79	Amusement and Recreation	+34.0	+ 2.1	+ 2.1

Services (continued)

Professional	+35.6	+19.4	+24.5
80 Health & Hospitals	+56.5	+28.5	+28.5
81 Legal Services	+37.2	+27.8	+37.2
82 Educational Services	+25.5	- 1.5	- 1.5
83 Social Services	+24.3	+37.3	+37.3
84 Museums & Gardens	+24.3	+18.5	+24.3
86 Membership Organizations	+24.3	+ 0.5	+ 0.5
88 Private Household Workers	- 6.8	+ 1.5	+ 1.5
89 Miscellaneous Professional Engin./Arch./Research/ Auditing	+37.2	+28.2	+37.2
Proprietors (Self-employed)	-15.0	-15.0	-15.0
Government (Federal, State, & Local)	+10.4	- 4.2	- 4.2

Source: United States: From U.S. Department of Labor, Bureau of Labor Statistics, "The Outlook for Industry Output and Employment through 1990," Monthly Labor Review. August 1981, pp. 28-41.

Massachusetts: Massachusetts Division of Employment Security, "Massachusetts Employment: Projected Changes 1980 to 1990," October 1982.

Boston: See Table 5 and Appendix of Sources and Methodology.

